WACOM

User's Manual SD-510C

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WACOM

USER'S MANUAL: SD-510C

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FCC Statement

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, it may cause interference to radio or television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of the Federal Communications Commission (FCC) Rules, which are designed to provide reasonable protection against such interference in a residential installation.

When connecting this device to a computer, a shielded I/O cable is required to ensure compliance with FCC Rules.

Options to the equipment must be purchased from WACOM Co., Ltd. or its authorized distributors to ensure compliance with the Class B specifications.

WACOM Co., Ltd. is not responsible for radio or television interference caused by unauthorized modification of the equipment.

Compliance with Class B specifications does not guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

> Reorient the radio or television receiving antenna.
>
> Relocate the equipment with respect to the receiver.
>
> Move the equipment away from the radio and television.
>
> Plug the equipment and the radio or television into separate outlets so that they are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by FCC helpful: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the US Government Printing Office, Washington D.C., 20402, Stock No. 004-000-00345-4.

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About the Manuals

This manual presents information on digitizers in general and on the WACOM SD-Series in particular with sections on definitions, principles of operation, maintenance, and DIP switch settings.

- For PC installation procedures, see *PC Installation and Utilities.*
- For Macintosh® installation procedures, see *Macintosh Installation and Operation.*
- For programming information, send for the *WACOM Programmer's Manual*.

1

1

1

The WACOM Advantage

Great Choice!

Congratulations on choosing the WACOM (pronounced **wah´** cum) advantage and welcome to the world of cordless digitizing.

Technology

The unique WACOM technology provides a set of selection and drawing tools ergonomically designed to be natural extensions of the hand. *Cordless*, they free the designer from the interruption of snarled cords. *Ultra-light*, they use no batteries and no magnets.

Users can choose from a variety of pointing devices including a four-button cursor, a standard stylus, and the first cordless, battery-free *pressure* stylus providing the user with a new dimension of input capability.

The WACOM technology has also developed a tablet surface that allows the stylus-to-tablet "feel" to simulate a pen-to-paper feel. Thus the drawing tools, selection devices, and tablet provide a more natural and comfortable man-machine interface.

Software

To facilitate installation and use, the WACOM digitizer comes with drivers and utilities with helpful hints to allow the tablet to be used with most applications.

Manuals

There are four manuals:

- The *User's Manual* provides information on digitizer components, maintenance, troubleshooting, principles of operation, and DIP switches.
- *PC Installation and Utilities* provides information on drivers and utilities included with the digitizer, and information on using the digitizer in different PC application environments.
- *Macintosh Driver Installation and Operation* extends the WACOM technology to the Macintosh family.
- The *WACOM Programmer's Manual* (available on request) provides software developers the ability to control the flow and format of data programmatically.

Upgrades

As new features, accessories, and software are developed, registered users will be notified about upgrade procedures.

Support

WACOM provides telephone support. (See "Troubleshooting.")

Warranty

Warranty information and the license agreement are included in this package.

2

2

The Basics

A digitizer is an electronic device that transmits coordinate data to software running on a host computer. Like those shown in Figure 2-A, digitizer components typically include a flat drawing surface called a "tablet," a drawing tool called a "stylus," and a selection tool called a "cursor." The stylus and cursor are referred to generally as "pointing devices."

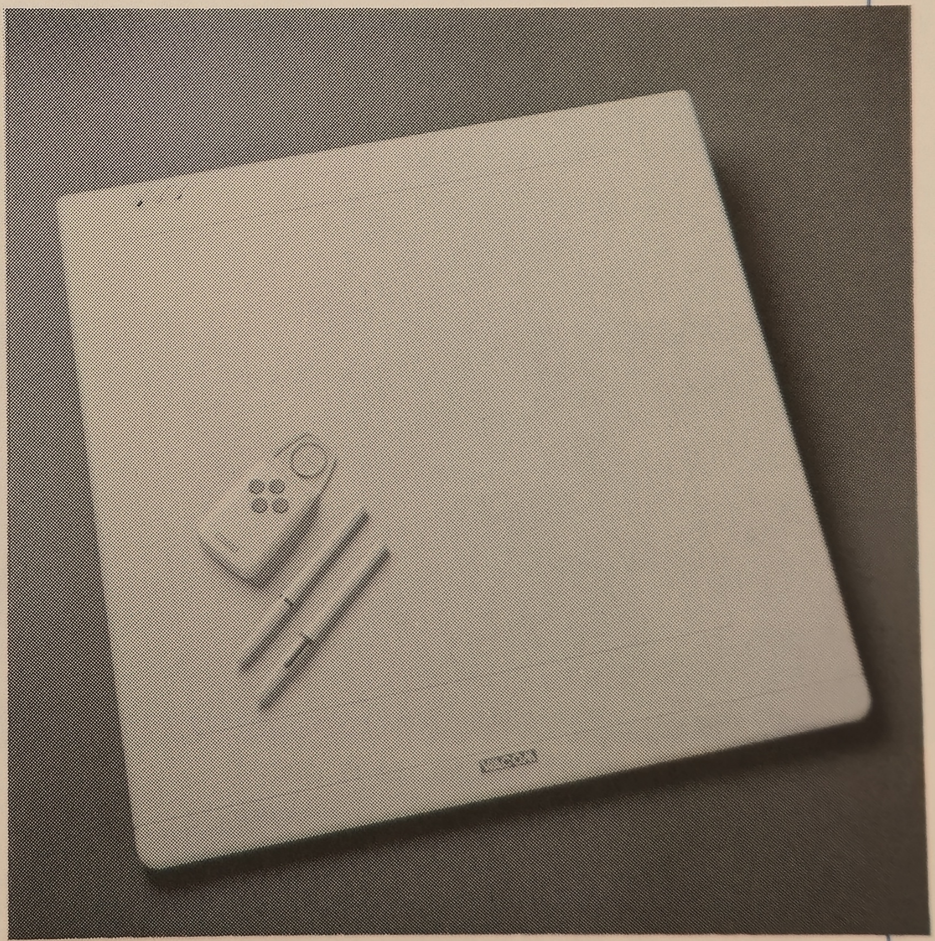


Figure 2-A
Digitizer Components

Digitizer size is expressed in terms of *effective area*, also referred to as the *active* or *sensing* area. The effective area is the location on or near the tablet (within about 7 mm) that can detect the presence of the pointing device. The different size WACOM tablets are shown in Figure 2-B.

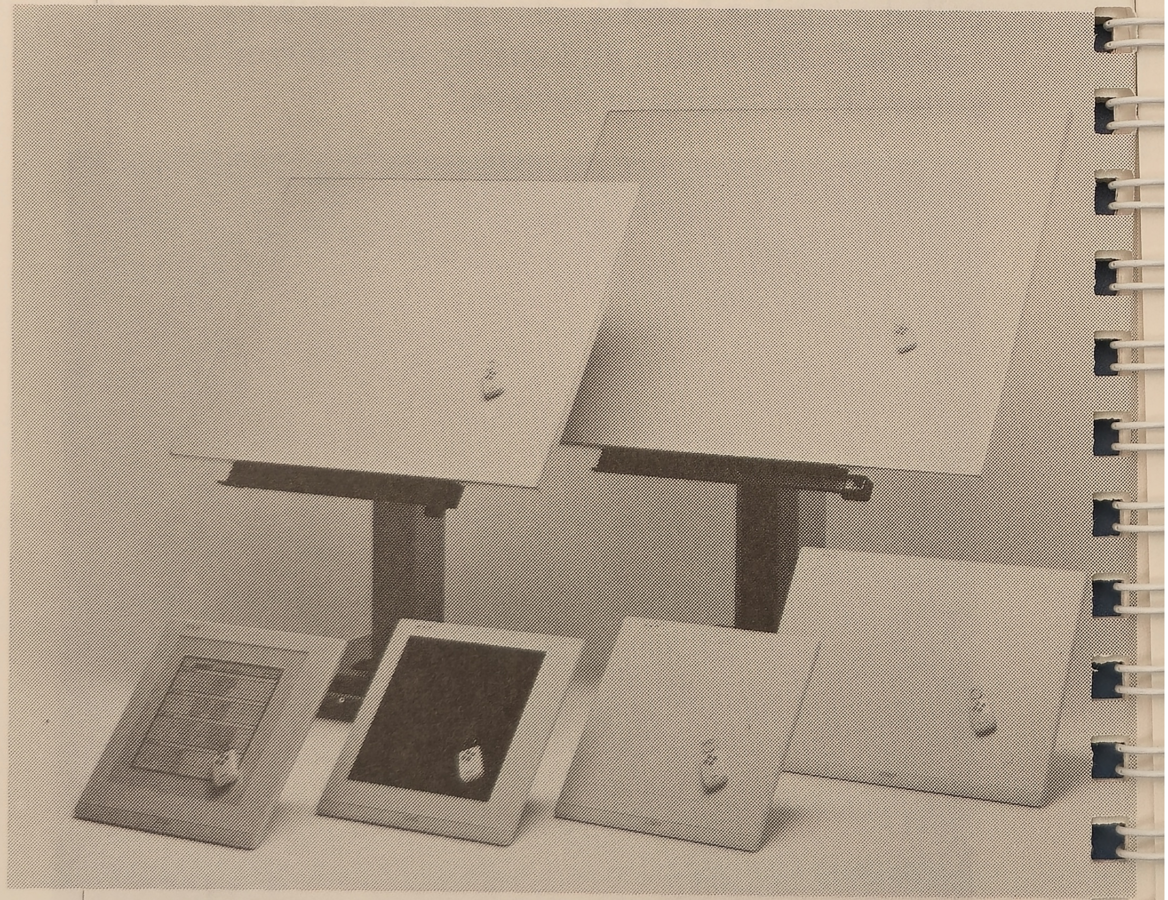


Figure 2-B
The WACOM Family of Tablets

Host Computer

The WACOM Super Digitizers (SD-Series) come with an interface cable, drivers, and utilities for IBM PC compatibles and Macintosh computers.

The Tablet

The SD-510C is shown in Figure 2-C.

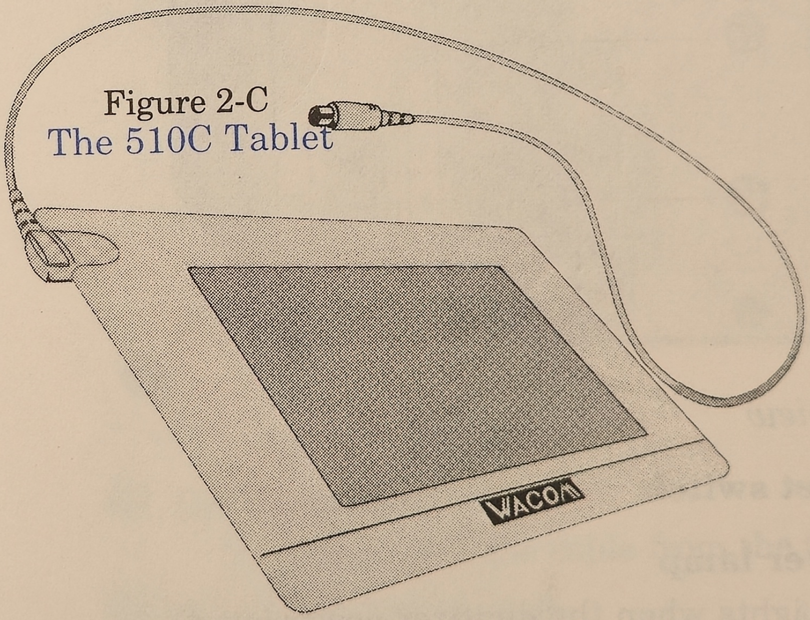


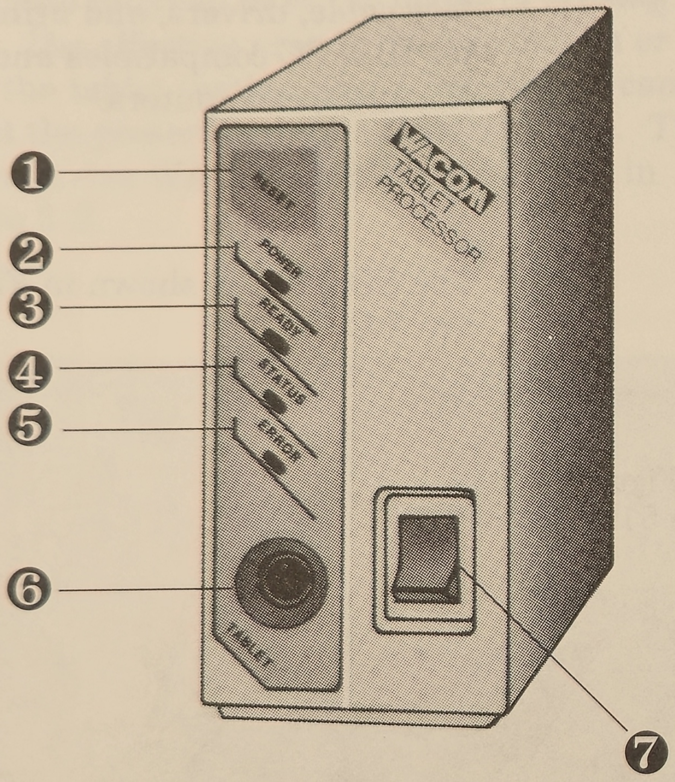
Figure 2-C
The 510C Tablet

Switches, connections, and indicator lamps are housed in a separate unit called a tablet processor. The front, rear, and bottom views are shown in Figure 2-D (a,b,c).

For tablet, pointing device, and general specifications, see Appendix B.

Figure 2-D (a)

Tablet Processor (front view)


❶
❷
❸
❹
❺
❻
❼
RESET
POWER
READY
STATUS
ERROR
TABLET
WACOM
TABLET
PROCESSOR

Front view

❶ Reset switch

❷ Power lamp

Lights when the digitizer power is on

❸ Ready lamp

Lights when the cursor or stylus is in the active area

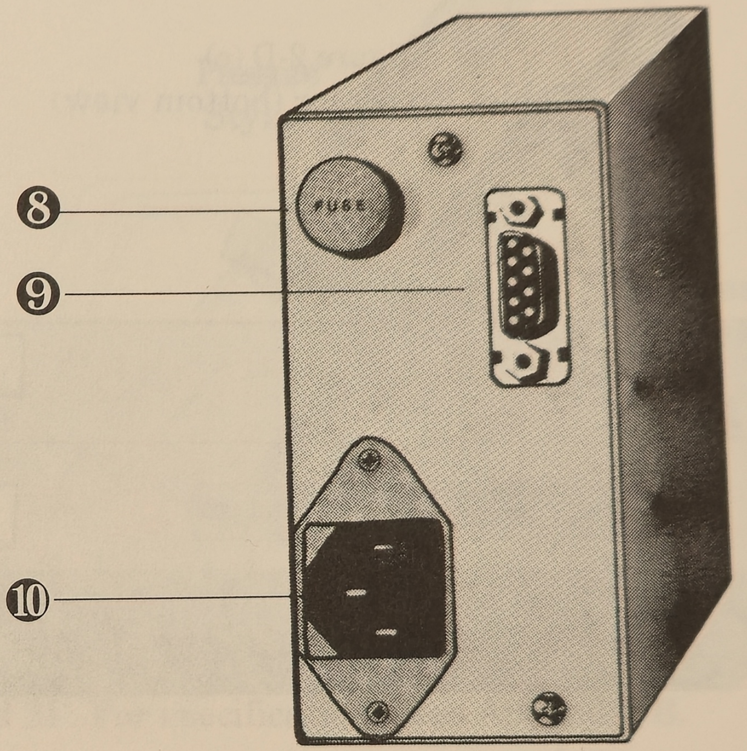
❹ Status lamp

Lights when the user presses a switch on a pointing device in the active area

❺ Error lamp

Lights when the digitizer receives an unrecognized command

Figure 2-D (b)
Tablet Processor (rear view)



Front view (continued)

❻ **Tablet connector**

Port to receive the cable from the tablet

❼ **Power On/Off Switch**

Turn AC power on and off

Rear view

❽ **Fuse holder**

❾ **RS-232C connector**

Port for the RS-232C interface cable

❿ **AC-IN**

Port for the AC power cable

Figure 2-D (c)
Tablet Processor (bottom view)

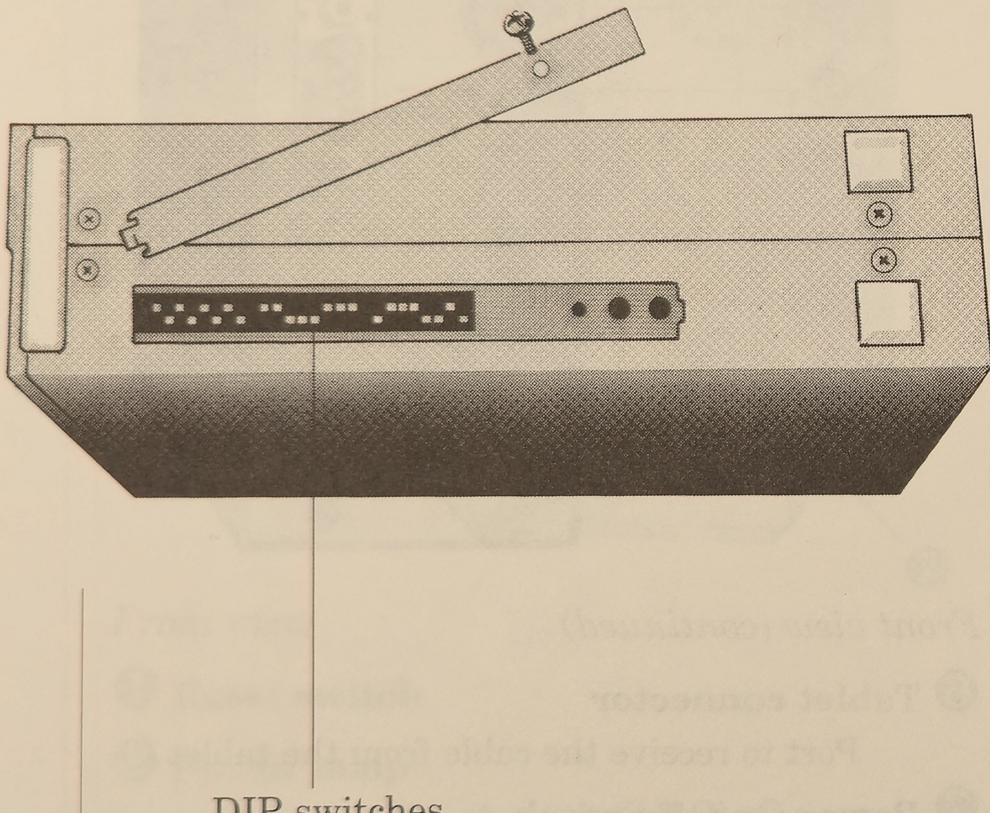
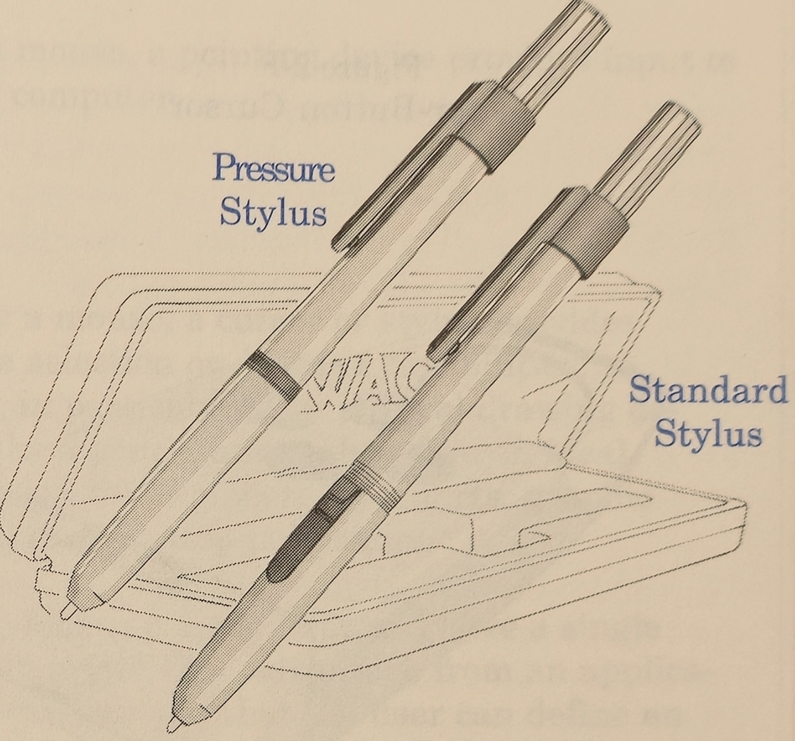

DIP switches

Figure 2-E
Pressure and Standard Styli

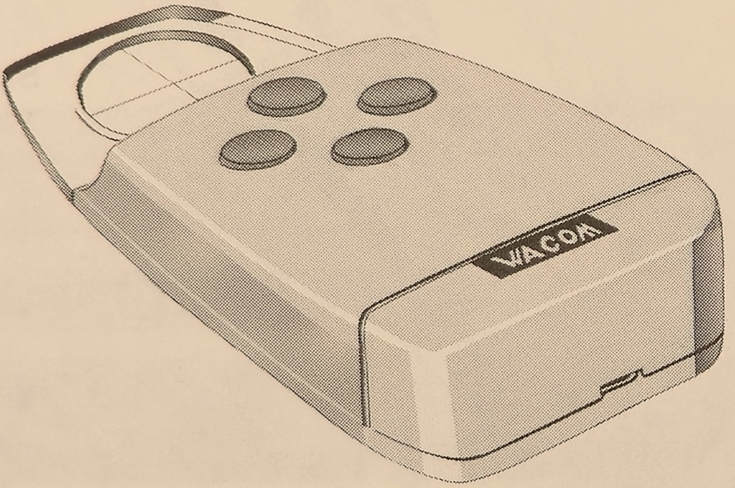


The WACOM pointing devices are shown in Figures 2-E and 2F. For specifications, see Appendix B.

The *pressure stylus* has a pressure-sensing tip and a detachable clip. Model SP-300 has a firmer feel (0-500 grams pressure) and can be identified by a blue band. Model SP-310 has a softer feel (0-300 grams pressure) and can be identified by a red band.

The *standard stylus* is a pen-like tool with a tip switch, a side or barrel switch, and a detachable clip and is available in two models. The SP-200, with a gray band, is a *nonstroke* stylus meaning there is a minimum amount of travel needed to close the tip switch. The SP-210, with a red barrel switch, is a *stroke* stylus meaning there is more travel needed to close the tip switch. The tip is available in plastic for drawing directly on the tablet or in pen-like color refills typically used for tracing.

Figure 2-F
Four-Button Cursor



The four-button *cursor* is a mouse-like tool with a pair of crossed hairs used for making precise selections. An eyelet is located at one end for attaching a safety cord.

Like a Mouse

Like a mouse, a pointing device provides input to a host computer.

Unlike a Mouse

Unlike a mouse, a cursor or stylus provides precise selection or drawing capabilities. A stylus, in particular, is a natural drawing device, like a pencil, and is therefore an ideal design tool for engineers, architects, graphic artists, and desktop publishers.

Unlike a mouse, a digitizer can have a single absolute origin. The advantage from an applications standpoint is that the user can define an area on the tablet, as a menu, for example. There is a direct correspondence between the distances on the tablet and distances on the computer screen. A mouse, on the other hand, creates a new origin with every touchdown.

Also, mouse distances are affected by surface type and foreign matter. When a mouse is overdue for a cleaning, the correspondence between mouse movement and screen pointer movement may vary.

A mouse may also limit your natural drawing capabilities. Have you ever tried to sign your name with a mouse?

DIP Switches

The digitizer operates according to a set of parameters that the user can define through DIP switches. The digitizer reads the switches whenever the user turns the tablet on or presses the RESET button. For the location of switches and buttons, see "The Tablet" in this section.

To change a DIP switch setting, use a small tool (such as a tiny screwdriver or ballpoint pen) to flip the switch. Do not use a pencil as the graphite can collect under the switch.

The command set you select (using the appropriate DIP switches) affects the meaning of the remaining DIP switches. Be sure to use the correct DIP switch chart for the command set you are using. For DIP switch defaults, definitions, and options, refer to Appendix A.

---

[1] "DIP" is an acronym for "Dual-In-line Package" — a type of switch housing that originated with integrated circuits.

It is a good practice to only change DIP switch settings with the power OFF since the digitizer will read the new settings when power goes ON.

3

Principles of Operation

With WACOM's patented technology, the digitizer alternates continuously between transmit and receive mode (changing modes about every 20 microseconds). Refer to Figure 3-A. In transmit mode, the tablet sends a signal at a particular frequency, producing electromagnetic resonance in the pointing device. The pointing device stores the electromagnetic energy using a coil-and-capacitor resonant circuit.

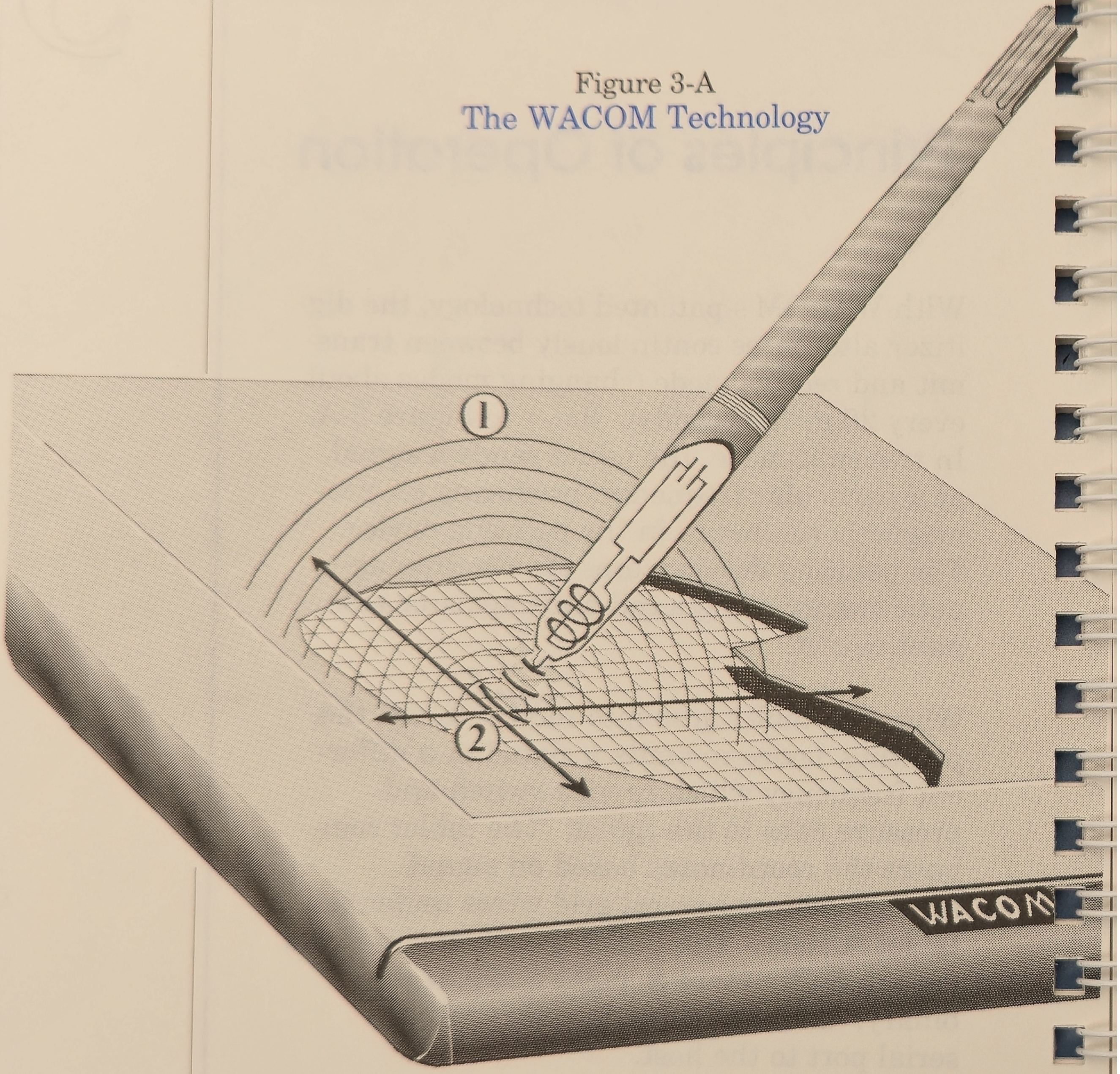
When the tablet goes into receive mode, the pointing device re-emits a signal at a different frequency which carries switch and pressure data to the tablet. The tablet computes the coordinates based on signal strength across several grid wires under the tablet surface. The tablet then translates the data to millimeters or inches, ASCII or binary,[1] and sends the data through the serial port to the host.

Because there is no power source in the pointing devices, calibration and tuning are unnecessary.

---

[1] Depending on DIP switch settings or programmer instructions

Figure 3-A
The WACOM Technology



① TRANSMIT MODE — The tablet sends a signal at frequency A, producing electromagnetic resonance in the pointing device.

② RECEIVE MODE — The pointing device re-emits a signal at frequency B.

4

4

Maintenance

Cleaning

Regular cleaning of the digitizer will help prolong its life and requires careful attention. To clean the digitizer, follow these steps:

1. Set the tablet's power switch to OFF.
2. Unplug the power cable from the back of the digitizer.
3. Dilute a neutral detergent solution, such as dishwashing liquid, in a bowl of lukewarm water.
4. Use a soft cotton, lint-free cloth to clean the tablet surface, cursor, and stylus.

> Do not clean the digitizer with any volatile liquid like paint thinner, turpentine, or benzene, etc. Such solvents can damage the plastics of the digitizer.

Cautions

Use proper care when working with or storing digitizer components:

- Avoid extreme heat and cold. Do not store components outdoors.
- Do not allow the components to stay in the direct rays of the sun.
- Do not allow any fluids to come into contact with the components, except when cleaning.
- Keep the tablet surface free of dust.
- Do not drop or hit the tablet, cursor, or stylus.
- Do not use any volatile liquid, like paint thinner, turpentine, or benzene, etc. which can damage the plastic surface.

Standard stylus refills:

- Use only Duracon refills made for the standard stylus available from your WACOM representative.
- For color refills in the U.S.A. (and neighboring countries), contact:

  Customer Service
  Zebra Pen Corporation
  105 Northfield Avenue
  Edison, New Jersey
  (201) 225-6310
  (800) 247-7170

  Be sure to ask for dealers that carry type 4C since not all Zebra product dealers carry this refill.

- For color refills (type 4C) in Europe, contact:

  WACOM Computer Systems GmbH
  Hellersbergstrasse 4
  D-4040 Neuss 1
  West Germany
  (++49) 02131-166001

Pressure
Stylus
Refills

Pressure stylus refills:

Use only the Duracon refills made for the pressure stylus available from your WACOM representative.

To replace the refill, follow these steps:

1. Using a tool such as a small pliers or strong tweezer, pull the old refill straight out of the stylus.
2. Insert the new refill straight into the space where the old refill had been.
3. Check to make sure the new tip is firmly in place by holding the stylus vertically and placing firm pressure on the tip.

The SD-510C digitizer fuse is a 5 x 20 mm Fast Acting .3 Amp or .315 Amp fuse like the Littlefuse® series 217.

To replace the digitizer fuse:

1. Locate the fuse holder on the back of the tablet processor. Refer to Figure 2-D(b) in Chapter 2.

2. To expose the fuse, remove the fuse cover. Use a flat screwdriver (or your thumb) to push and turn the fuse cover counterclockwise.

If the fuse blows again, do not attempt to use a larger value fuse. Contact your sales representative for digitizer repair or replacement.

5

Troubleshooting

1. If your digitizer is not working at all, check the items below:
   - Is the power cable connected?
   - Is the power switch turned on?
   - Is the interface cable between the tablet and the computer connected securely?
   - Check the settings on the DIP switches.
2. If the POWER indicator is off, but the digitizer has power, try replacing the fuse. For instructions, see "Maintenance." If the fuse blows again, contact your WACOM sales representative.
3. To see if there is a problem with the power cable, attach the cable to a component you know to be operational.

4. If the host is not receiving signals, make sure there is only one pointing device in the effective area at one time.

5. If you are receiving unusual coordinate data, check to make sure you are using the pointing device in the right modes.

   Standard Stylus – Use nonpressure mode only

   Pressure Stylus – Use:
   - Pressure mode only
   - Switch Stream or Stream operation modes

   Color switches and bands are used to identify the different styles. See Appendix B.

   Operation mode is selected through DIP switch settings. See Appendix A.

   Procedures to select pressure or nonpressure modes:
   - Macintosh: Use the Control Panel. See “Macintosh Installation and Operation.”
   - IBM PC: Issue the PH command. See the “Programmer’s Manual.”

     Select appropriate feature in your application.

The pressure stylus *cannot* be used with MM 961, MM 1201, or Bit Pad Two emulations since these command sets do not support the pressure feature.

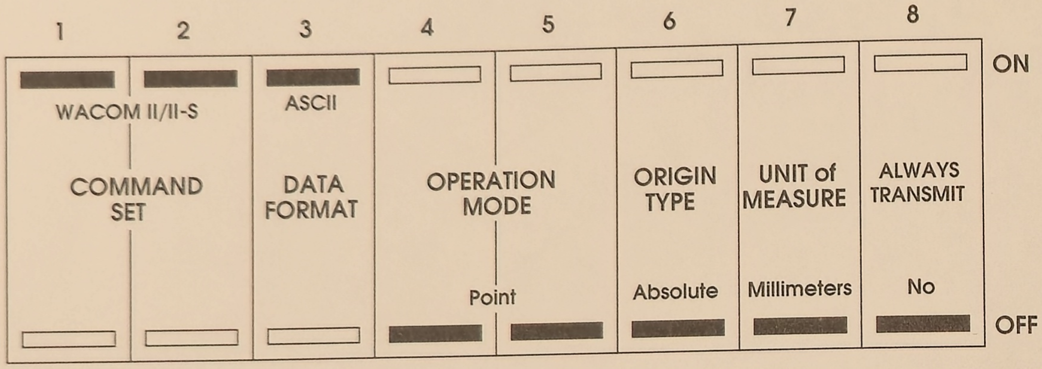
6. To talk with a WACOM technician:

USA	1-800-WACOM-35 1-800-922-6635
Europe	(++49) 02131-166001

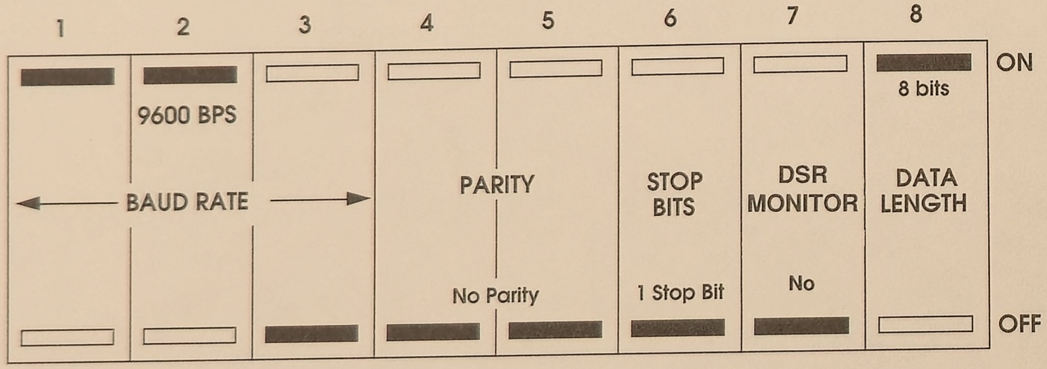
A

WACOM II and II-S (Factory) DIP Switch Defaults

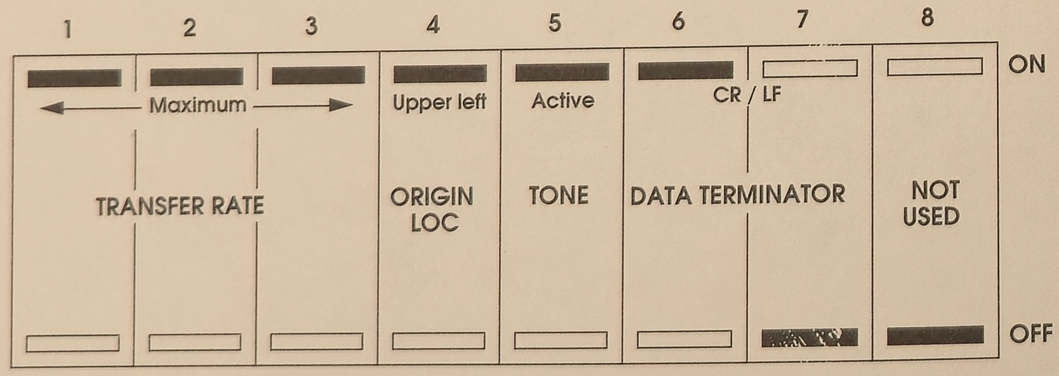
DS 1


1
2
3
4
5
6
7
8
ON
OFF
WACOM II/II-S
COMMAND SET
ASCII
DATA FORMAT
OPERATION MODE
Point
ORIGIN TYPE
Absolute
UNIT of MEASURE
Millimeters
ALWAYS TRANSMIT
No

DS 2


1
2
3
4
5
6
7
8
ON
OFF
9600 BPS
BAUD RATE
PARITY
No Parity
STOP BITS
1 Stop Bit
DSR MONITOR
No
8 bits
DATA LENGTH

DS 3


1
2
3
4
5
6
7
8
ON
OFF
Maximum
TRANSFER RATE
Upper left
ORIGIN LOC
Active
TONE
CR / LF
DATA TERMINATOR
NOT USED

▬ = DIP switch position

WACOM II and II-S DIP Switch Options

DS 1

COMMAND SET	1	2
WACOM II	ON	ON

DATA FORMAT	3
Binary	OFF
ASCII	ON

OPERATION MODE	4	5
Point	OFF	OFF
Suppressed	OFF	ON
Switch Stream	ON	OFF
Stream	ON	ON

ORIGIN	6
Absolute	OFF
Relative	ON

UNIT OF MEASURE	7
Millimeters	OFF
Inches	ON

ALWAYS TRANSMIT	8
No	OFF
Yes	ON

DS 2

BAUD RATE (bits/sec)

	1	2	3
150	OFF	OFF	OFF
300	OFF	OFF	ON
600	OFF	ON	OFF
1200	OFF	ON	ON
2400	ON	OFF	OFF
4800	ON	OFF	ON
9600	ON	ON	OFF
19,200	ON	ON	ON

PARITY	4	5
None	OFF	■
Odd	ON	OFF
Even	ON	ON

STOP BITS	6
1	OFF
2	ON

DSR MONITOR	7
No	OFF
Yes	ON

DATA LENGTH	8
7 bits	OFF
8 bits	ON

DS 3

TRANSFER RATE (points / sec)

	1	2	3
1	OFF	OFF	OFF
5	OFF	OFF	ON
10	OFF	ON	OFF
20	OFF	ON	ON
50	ON	OFF	OFF
67	ON	OFF	ON
100	ON	ON	OFF
MAX	ON	ON	ON

ORIGIN LOCATION	4
Lower left	OFF
Upper left	ON

TONE	5
Disabled	OFF
Active	ON

DATA TERMINATOR	6	7
CR	OFF	OFF
LF	OFF	ON
CR/LF	ON	■

NOT USED	8
Mandatory setting	OFF

Factory Setting

■ ON or OFF

WACOM II and II-S
DIP Switch Definitions

DS 1 DIP Switch(es)

1,2	COMMAND SET	WACOM II WACOM II-*S*
3	DATA FORMAT	ASCII or Binary Format of the data sent from the digitizer to the host
4,5	OPERATION	Determines the mode in which coordinate data is sent to the digitizer:

- Point Mode
  Sends one pair of X,Y coordinates with each switch press of the pointing device

- Suppressed Mode
  Sends X,Y coordinates only when a “significant” pointing device event occurs. This event could be a:
  - Switch press or release
  - Entering or leaving the effective area
  - Change in X or Y greater than a specified value

- Switch Stream Mode
  Sends X,Y coordinates continuously while a button or stylus switch is pressed

- Stream Mode
  Sends X,Y coordinates continuously

6	ORIGIN TYPE	■ Relative Like a traditional mouse, every touchdown creates a new origin. ■ Absolute The origin is fixed at the location selected with the ORIGIN LOCATION DIP switch.
7	UNIT OF MEASURE	Inches or millimeters. Measurement unit of the data coordinates. See "Resolution" under "General Specifications" in Appendix B.
8	ALWAYS TRANSMIT	■ Yes In stream mode, coordinates will be sent continuously when the pointing device is in or out of the effective area. ■ No In stream mode, no data will be sent to the host when the pointing device is out of the effective area. For more details on this parameter, refer to the *WACOM Programmer's Manual*, AL command.

DS 2 DIP Switch(es)

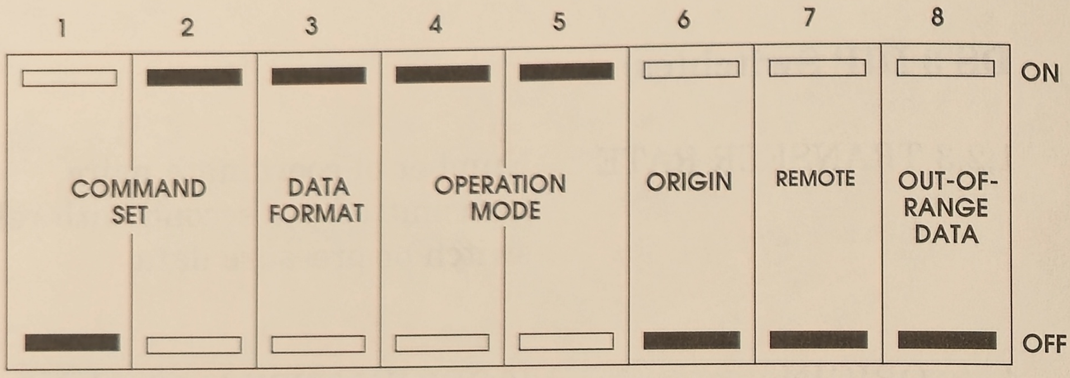
1,2,3 BAUD RATE	150 - 19,200 bps Number of bits transmitted per second from the digitizer to the host. Baud rate for the digitizer and host must be the same.
4,5 PARITY	Parity, a method used to determine if an error occurred in data transmission, can be even, odd, or none. Parity for the digitizer and host must be the same.
6 STOP BITS	Number of stop bits to signal the end of a character. Stop bits for the digitizer and host must be the same.
7 DSR MONITOR	Determines whether or not the tablet responds to the DSR input signal of the RS-232C serial port.
8 DATA LENGTH	The number of bits in a character. Must be the same for digitizer and host.

DS 3 DIP Switch(es)

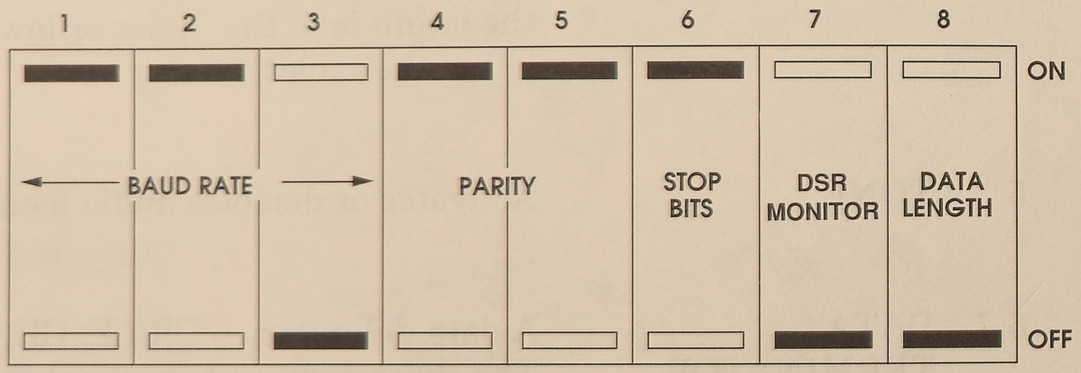
1,2,3	TRANSFER RATE	Number of coordinate pairs transmitted per second with related switch or pressure data
4	ORIGIN LOCATION	If ORIGIN TYPE is “absolute” (DS 1, switch 6), ORIGIN LOCATION determines whether the origin is in the upper or lower left of the tablet.
5	TONE	Activates or disables audio feedback
6,7	DATA TERMINATOR	A data delimiter — CR/LF, CR, LF. The characters sent to signal the end of an X,Y coordinate pair in ASCII mode data transmission
8	NOT USED	Must be set to OFF (mandatory setting)

Bit Pad Two DIP Switch Defaults

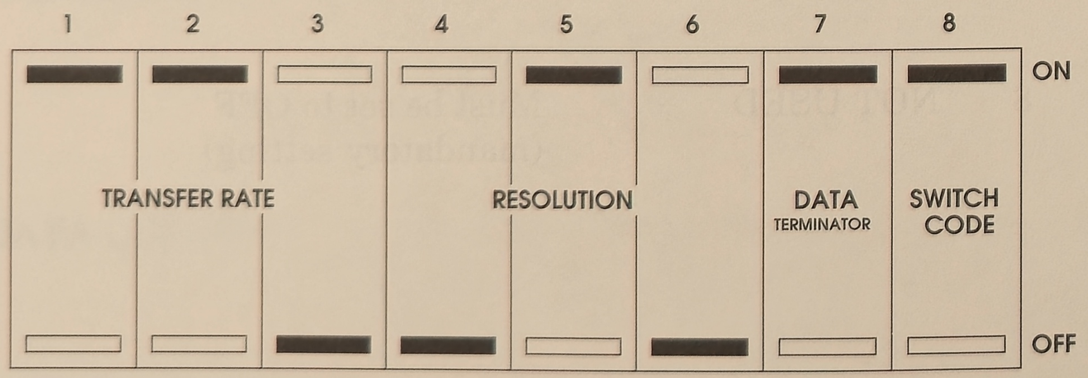
DS 1


1
2
3
4
5
6
7
8
ON
OFF
COMMAND SET
DATA FORMAT
OPERATION MODE
ORIGIN
REMOTE
OUT-OF-RANGE DATA

DS 2


1
2
3
4
5
6
7
8
ON
OFF
BAUD RATE
PARITY
STOP BITS
DSR MONITOR
DATA LENGTH

DS 3


1
2
3
4
5
6
7
8
ON
OFF
TRANSFER RATE
RESOLUTION
DATA TERMINATOR
SWITCH CODE

▬ = DIP switch position

Bit Pad Two DIP Switch Options

DS 1

COMMAND SET	1	2
BIT PAD II	OFF	ON

DATA FORMAT	3
Binary	OFF
ASCII	ON

OPERATION MODE	4	5
Point	OFF	■
Switch Stream	ON	OFF
Stream	ON	ON

ORIGIN	6
Absolute	OFF
Relative	ON

REMOTE	7
Disabled	OFF
Enabled	ON

OUT-OF-RANGE-DATA	8
No	OFF
Yes	ON

■ ON or OFF

DS 2

BAUD RATE (bit/sec)	1	2	3
110	OFF	OFF	OFF
150	OFF	OFF	ON
300	OFF	ON	OFF
1200	OFF	ON	ON
2400	ON	OFF	OFF
4800	ON	OFF	ON
9600	ON	ON	OFF
19,200	ON	ON	ON

PARITY	4	5
None	OFF	■
Odd	ON	OFF
Even	ON	ON

STOP BITS	6	7
1	OFF	OFF
2	ON	■

DSR MONITOR	7
No	OFF
Yes	ON

DATA LENGTH	8
7 bits	OFF
8 bits	ON

DS 3

TRANSFER RATE (points / sec)	1	2	3
2	OFF	OFF	OFF
4	OFF	OFF	ON
10	OFF	ON	OFF
20	OFF	ON	ON
40	ON	OFF	OFF
67	ON	OFF	ON
100	ON	ON	OFF
MAX	ON	ON	ON

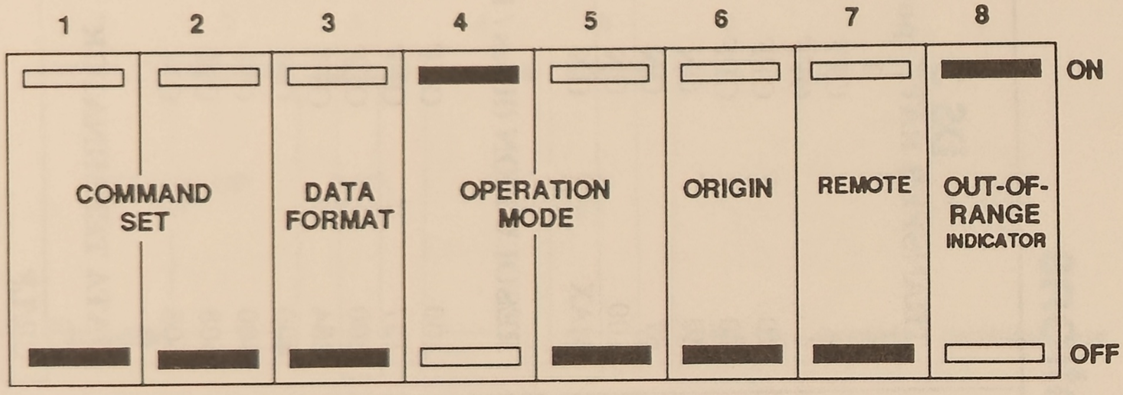
RESOLUTION (lines / inch)	4	5	6
100	OFF	OFF	OFF
127	OFF	OFF	ON
200	OFF	ON	OFF
254	OFF	ON	ON
400	ON	OFF	OFF
500	ON	OFF	ON
508	ON	ON	OFF
508	ON	ON	ON

DATA TERMINATOR	7
CR	OFF
CR/LF	ON

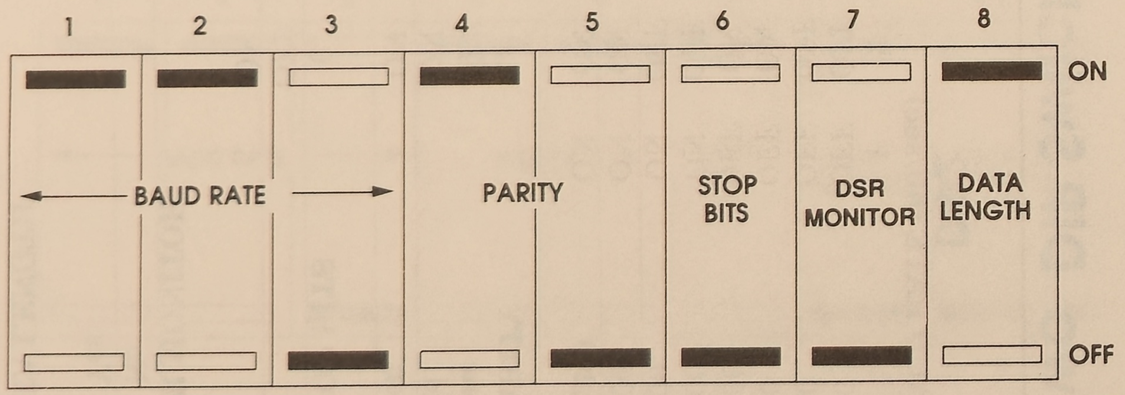
SWITCH CODE	8
OUT B (1,2,3,4)	OFF
OUT A (1,2,4,8)	ON

MM 961 and 1201 DIP Switch Defaults

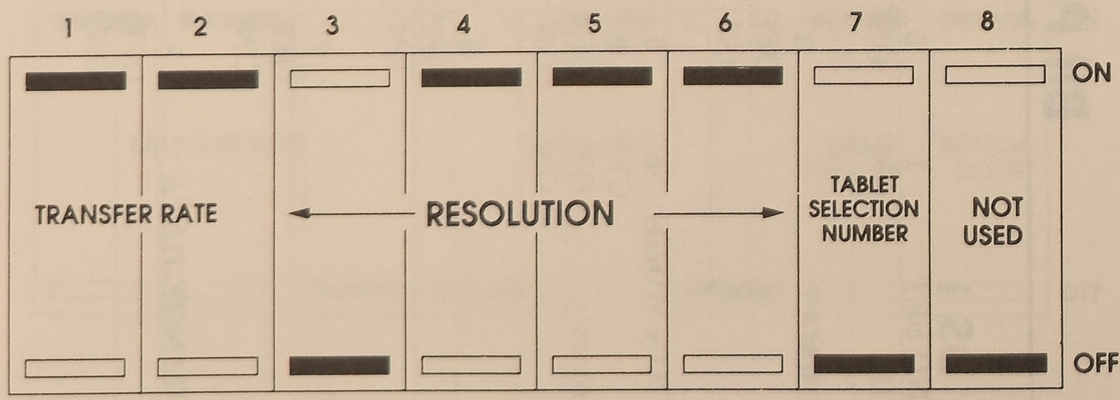
DS 1


1
2
3
4
5
6
7
8
ON
COMMAND SET
DATA FORMAT
OPERATION MODE
ORIGIN
REMOTE
OUT-OF-RANGE INDICATOR
OFF

DS 2


1
2
3
4
5
6
7
8
ON
BAUD RATE
PARITY
STOP BITS
DSR MONITOR
DATA LENGTH
OFF

DS 3


1
2
3
4
5
6
7
8
ON
TRANSFER RATE
RESOLUTION
TABLET SELECTION NUMBER
NOT USED
OFF

▬ = DIP switch position

MM 961 and MM 1201 DIP Switch Options

DS 1

COMMAND SET	1	2
MM 1201	OFF	OFF

DATA FORMAT	3
Binary	OFF
ASCII	ON

OPERATION MODE	4	5
Point	OFF	■
Switch Stream	ON	OFF
Stream	ON	ON

ORIGIN TYPE	6
Absolute	OFF
Relative	ON

REMOTE	7
Disabled	OFF
Enabled	ON

OUT-OF-RANGE INDICATOR	8
No	OFF
Yes	ON

■ ON *or* OFF

DS 2

BAUD RATE (bits / sec.)	1	2	3
150	OFF	OFF	OFF
300	OFF	OFF	ON
600	OFF	ON	OFF
1200	OFF	ON	ON
2400	ON	OFF	OFF
4800	ON	OFF	ON
9600	ON	ON	OFF
19,200	ON	ON	ON

PARITY	4	5
None	OFF	■
Odd	ON	OFF
Even	ON	ON

STOP BITS	6	7
1	OFF	OFF
2	ON	■

DSR MONITOR	7
No	OFF
Yes	ON

DATA LENGTH	8
7 bits	OFF
8 bits	ON

DS 3

TRANSFER RATE (points / sec.)	1	2
2	OFF	OFF
20	OFF	ON
50	ON	OFF
100	ON	ON

RESOLUTION (lines / inch) – all tablets	3	4	5	6
1	OFF	OFF	OFF	OFF
2	OFF	OFF	OFF	ON
4	OFF	OFF	ON	OFF
100	OFF	OFF	ON	ON
200	OFF	ON	OFF	OFF
254	OFF	ON	OFF	ON
400	OFF	ON	ON	OFF
500	OFF	ON	ON	ON
508	ON	OFF	OFF	OFF

ADDITIONAL RESOLUTION (MM 1201, Wacom A2, A3, A3+, A4+)	3	4	5	6
1000	ON	OFF	OFF	ON
1016	ON	OFF	ON	OFF
1016	ON	OFF	ON	ON
1016	ON	ON	OFF	OFF
1016	ON	ON	OFF	ON
1016	ON	ON	ON	OFF
1016	ON	ON	ON	ON

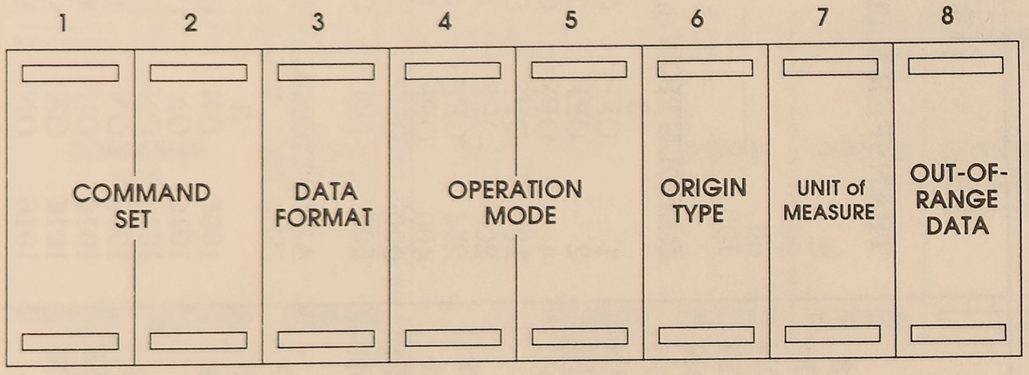
TABLET SELECTION NUM.	7
0	OFF
1	ON

NOT USED	8

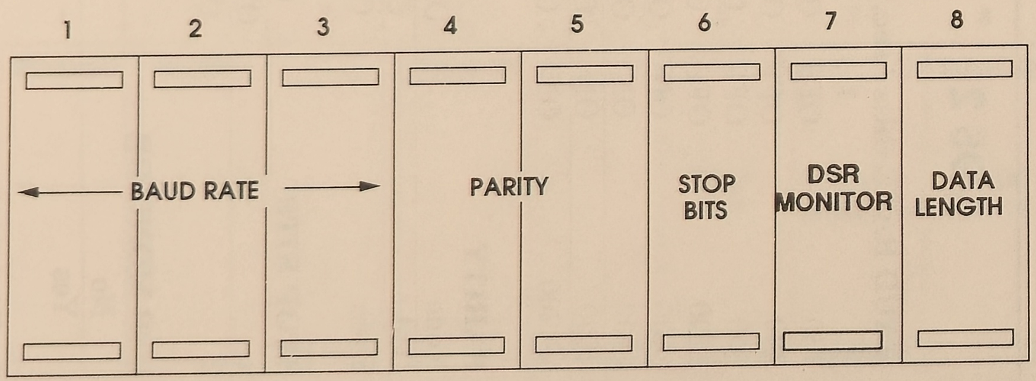
User DIP Switch Settings

Use this page to record your configuration.

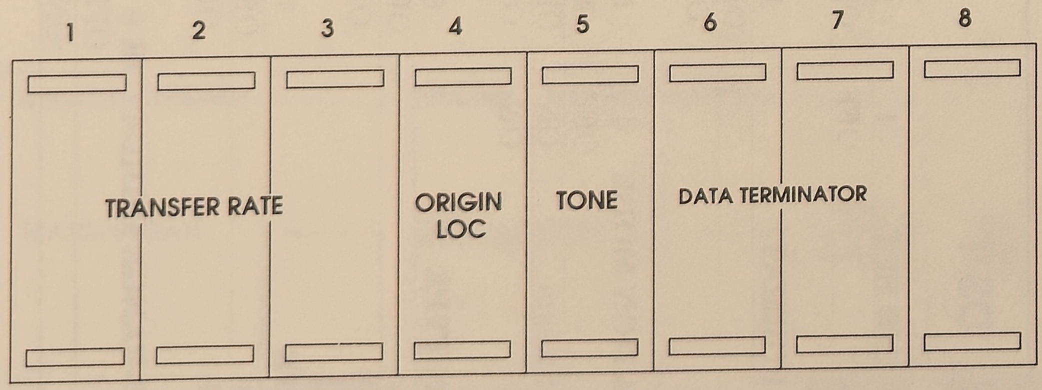
DS 1


1
2
3
4
5
6
7
8
ON
OFF
COMMAND SET
DATA FORMAT
OPERATION MODE
ORIGIN TYPE
UNIT of MEASURE
OUT-OF-RANGE DATA

DS 2


1
2
3
4
5
6
7
8
ON
OFF
BAUD RATE
PARITY
STOP BITS
DSR MONITOR
DATA LENGTH

DS 3


1
2
3
4
5
6
7
8
ON
OFF
TRANSFER RATE
ORIGIN LOC
TONE
DATA TERMINATOR

▬ = DIP switch position

B

Tablet Specifications

Size	**A2**	**A3**	**A3+**	**A4+**	**A5**
Surface		**Model Numbers ***			
Standard	SD-210L	—	SD-320L	SD-420L	SD-510C
Electrostatic	—	SD-311L	SD-321L	SD-421L	—
Transparent Panel	—	SD-312L	SD-322L	SD-422L	—
Active area					
(mm)	635 x 462	424 x 300	381 x 381	305 x 305	151 x 232
(inches)	25 x 18	16.7 x 11.8	15 x 15	12 x 12	5.91 x 9.13
Physical size					
(mm)	779 x 613	582 x 465	528 x 526	420 x 420	238 x 327 x 7
(inches)	30.7 x 24.1	22.9 x 18.3	20.8 x 20.7	16.5 x 16.5	9.4x12.9 x 0.28
Power consumption	13w	13w	4w	4w	3w
Weight					
(kg)	10.5	7	5.5	4	.9
(lbs)	23.3	15.5	12.1	8.9	1.9
Command Sets					
WACOM II	✔	✔	✔	✔	
WACOM II-S					✔
Bit Pad Two		✔	✔	✔	✔
MM 961					✔
MM 1201		✔	✔	✔	
Power supply		85-240V AC 50/60 Hz		85-132V AC	*USA* 100-120V AC 50/60 Hz *Europe* 200-240V AC 50/60 Hz

---

* No "L" in European model numbers

General Specifications

	A2, A3, A3+, A4+		A5	
Resolution				
mm mode *	50 lpmm (1270 lpi)		20 lpmm (508 lpi)	
inch mode *	1000 lpi (39.4 lpmm)		500 lpi (19.7 lpmm)	
Accuracy (edge to edge)				
(mm)	± .25		± 0.5	
(inches)	.01		.02	
Maximum reading height	Cursor	Stylus	Cursor	Stylus
(mm)	8	4	2	2
(inches)	0.3	0.2	0.1	0.1
Maximum report rate				
(points per second)	205		100	
Physical size (Tablet Processor)				
(mm)	—		52 x 105 x 209	
(inches)	—		2.05 x 4.13 x 8.23	
Weight (Tablet processor)				
(kg)	—		.95	
(lbs)	—		2.10	

Interface	RS-232C
Operating temperature	5-40°C (41–104°F)
Storage temperature	–10-60°C (14–140°F)
Humidity	20%-80% (noncondensing)

---

* DIP switch 1,7 set to millimeter or inch mode

Pointing Device Specifications

Four-Button Cursor		
Size	(mm)	55 x 118 x 21
	(inches)	2.1 x 4.6 x 0.8
Weight	(grams)	45
	(ounces)	1.6

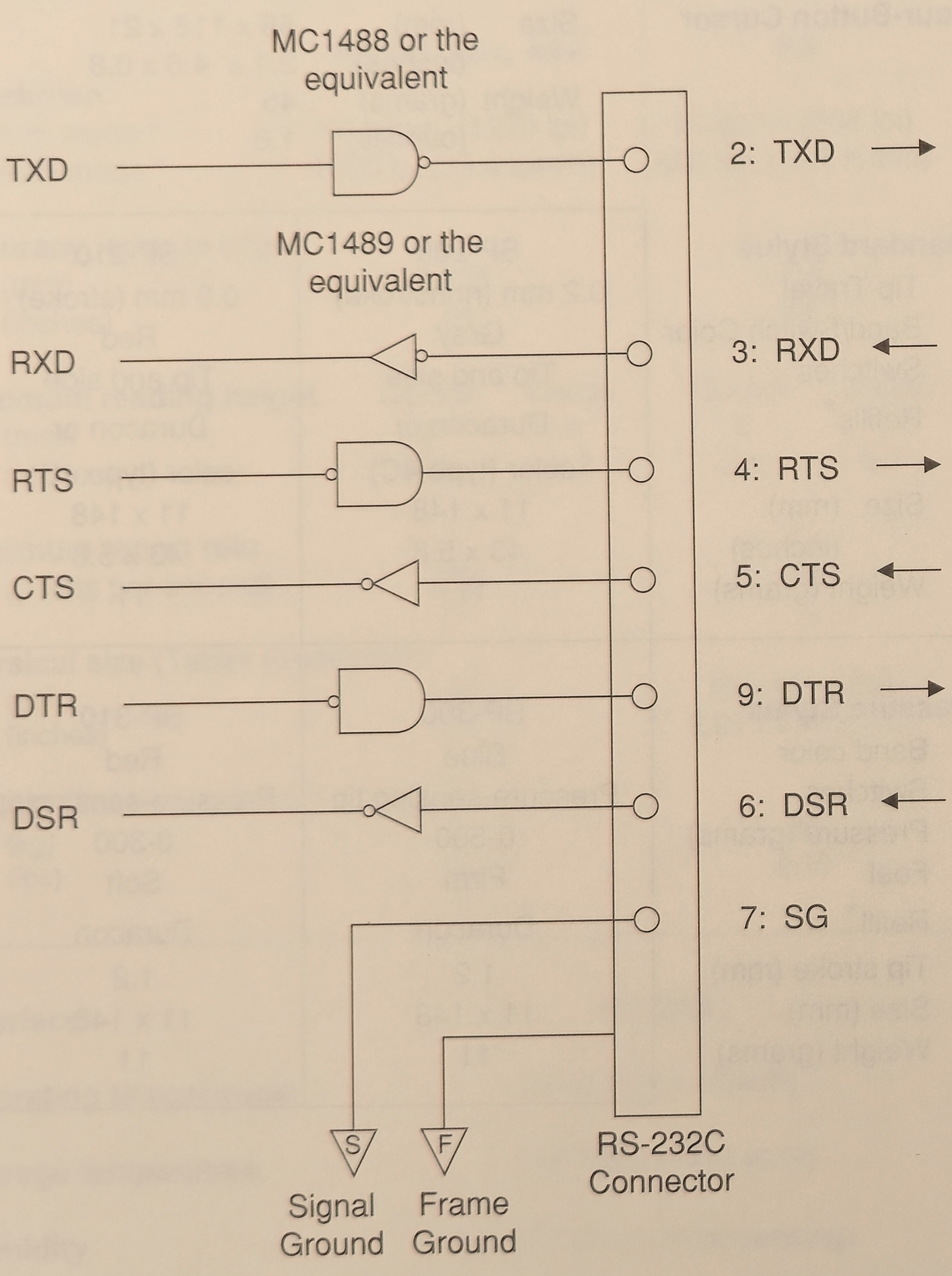
Standard Stylus	SP-200	SP-210
Tip Travel	0.2 mm (nonstroke)	0.9 mm (stroke)
Band/Switch Color	Gray	Red
Switches	Tip and side	Tip and side
Refills*	Duracon or color (type 4C)	Duracon or color (type 4C)
Size (mm)	11 x 148	11 x 148
(inches)	.43 x 5.8	.43 x 5.8
Weight (grams)	11	11

Pressure Stylus	SP-300	SP-310
Band color	Blue	Red
Switches	Pressure-sensing tip	Pressure-sensing tip
Pressure (grams)	0-500	0-300
Feel	Firm	Soft
Refill*	Duracon	Duracon
Tip stroke (mm)	1.2	1.2
Size (mm)	11 x 148	11 x 148
Weight (grams)	11	11

---

* See “Maintenance” for purchase information

RS-232C Digitizer Circuit


MC1488 or the equivalent
TXD
2: TXD →
MC1489 or the equivalent
RXD
3: RXD ←
RTS
4: RTS →
CTS
5: CTS ←
DTR
9: DTR →
DSR
6: DSR ←
7: SG
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F
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Frame Ground
RS-232C Connector

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